Using ODBC to Link A Legacy System with Multiple Applications

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We are starting to use the ODBC protocol to overcome several problems which are commonly encountered when designing applications for an outlying medical office setting. These problems include the integration of a central hospital legacy system, the synthesis of multiple independent local applications and the avoidance of duplicate data entry. Our goal is to create an environment where application development can occur rapidly and easily through the efforts of many groups. We see this as a pathway along which a complete computer-based patient record can be developed in a stepwise fashion.

LEGACY SYSTEM INTEGRATION

Our outlying clinic sites are linked to the central hospital computer using high-speed telephone lines. The major traffic on these connections is registration and billing information which is generated as patients are entered into the system when they arrive for appointments. A recent upgrade of the legacy system has made an ODBC-compliant link available over the same lines. We take advantage of this link by using local ODBC-aware database applications (usually written in Microsoft Access(tm)) to attach tables which exist on the remote hospital computer. These tables contain primarily demographic and billing information and are indexed by a medical record number unique to each patient. We use this information as our exclusive source of demographic information: we avoid having individual local applications duplicate that data. This allows us to concentrate on maintaining a single demographic database. In addition, it avoids the need for duplicate data entry, which plagues many stand-alone office applications.

DEVELOPMENT OF LOCAL APPLICATIONS

We have several groups developing applications which are designed to run on local computers at our outlying clinic sites. These applications include such things as a prescription-writing tool[1], a growth and development evaluation program, and lead level, missed appointment and immunization tracking programs. All of these programs require demographic patient information. Because we have an ODBC link to a central data repository, individual programs can be developed to allow the user to select a patient from the pre-existing database, without the need for duplicate data entry. Further, this selection can be done by a central menu program, which can then pass the selection on to whichever application the user chooses. This presents the user with the interface of an extensive, multifunction system while allowing the work of application development to be spread among many groups. Any database system may be used for development as long as it can support the ODBC protocol.

CONCLUSION

We have begun a project to use the ODBC protocol as the backbone of application development to computerize as much clinical information as possible at our outlying clinic sites. We have chosen this protocol because it serves three purposes very well. First, our central hospital legacy system can be integrated into local applications because it supports access to its repository of data using ODBC. Second, by building local applications around the existing data in the legacy system, we allow for independent development of individual applications, thus speeding the development process. Third, using the central database as the sole repository of demographic information avoids the need for duplicate data entry into each individual application.

References

1. Winkelstein, P. A prescription-writing tool for a primary care pediatric office. Proceedings of the Nineteenth Annual SCAMC. Hanley & Belfus, Philadelphia, 1995, pg. 979.

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